

The *N-TRON*<sup>®</sup> *105FX-POE* Unmanaged Industrial Ethernet Switch is designed to transmit power along with data over an Ethernet network. It is ideal for PoE capable devices where running an AC power feed is either not possible or cost effective. This allows an end user to power a PoE camera, wireless access point, or any other PoE capable device without the need for running separate wires for power. This also makes it possible to utilize a centralized battery backup for all these devices.

## PRODUCT FEATURES

- Compact, Space Saving Package
- Full IEEE 802.3 and 802.3af Compliance
- American Bureau of Shipping (ABS) Type Approval
- EN50155 for Railway applications
- Four 10/100BaseTX RJ-45 Ports (4 PoE Ports)
- One 100BaseFX Port with ST or SC Connectors
- Unmanaged Operation
- Extended Environmental Specifications
  - -40°C to 85° Operating Temperature
- Automatic Detection of Connected PoE Devices
- Support for Full/Half Duplex Operation
- Auto-sensing Duplex, Speed, and MDIX (RJ-45)
- Up to 1.0 Gb/s Maximum Throughput
- Full Wire Speed Communications
- Supports 15.4 Watts per port (13 Watts at the PD)
- Redundant Power Inputs (46-49 VDC)
- Power Fault Status LED's
- LED Link/Activity Status Indication
- LED PoE Status Indication
- Hardened Metal DIN-Rail Enclosure

## PRODUCT OVERVIEW

The *105FX-POE* Industrial Network Switch is designed to meet the most demanding industrial communications requirements by providing high throughput and minimum downtime while also providing power to PoE capable devices over the Ethernet network.

The *105FX-POE* provides four RJ-45 auto-sensing 10/100BaseTX ports. All ports are full/half duplex capable, using "state of the art" Ethernet switching technology. All four RJ-45 ports also act as PoE ports allowing power to pass through four of the eight strands of CAT5 cable. Each PoE port supports up to 15.4 watts of power. The 5th port is a 100BaseFX fiber optic uplink utilizing industry standard ST or SC duplex connectors.



The *105FX-POE* auto-negotiates the speed and flow control capabilities of the four TX port connections, and configures itself automatically.

The *N-TRON 105FX-POE* also supports up to 2,000 MAC addresses, enabling these products to support extremely sophisticated and complex network architectures.

The *105FX-POE* automatically detects any PoE device that is connected and powers it accordingly. If a PoE fault is detected on a specific port the Auto-disconnect feature disables PoE power on that port, allowing only data communications to pass, reducing the risk of damaging costly equipment.

The *105FX-POE* is an ideal candidate for providing data and power to wireless LAN access points, network cameras, VoIP, and other PoE capable devices. The product also helps reduce costs by eliminating the need for electrical wiring and electrician expenses.

The *105FX-POE* has extended operating environmental specifications to meet the harsh needs of the industrial environment. For cost savings and convenience the network switch can be DIN-Rail mounted alongside Ethernet I/O or other Industrial Equipment.

To increase reliability the *105FX-POE* provides dual redundant power inputs. Two power LED's are also provided on this unit indicating a valid power source on both the redundant power inputs and also indicating when a power fault bus occurs.

## 105FX-POE SPECIFICATIONS

### Case Dimensions

Height:	3.5"	(9.7cm)
Width:	1.5"	(3.8 cm)
Depth:	3.6"	(9.0cm)
Weight:	0.7 lbs.	(0.3 kg)
DIN-Rail:	35mm	

### Electrical

Input Voltage:	46-49 VDC
Steady Input Current	1.6 A@48V Under Full Load
Steady Input Current with	65mA@48V No PoE, Switch Full Load
Inrush:	26Amp/1.3ms@48V

### Environmental

Operating Temperature:	-40°C to 85°C
Storage Temperature:	-40°C to 85°C
Operating Humidity:	10% to 95% (Non Condensing)
Operating Altitude:	0 to 10,000 ft.

### Network Media

10BaseT:	>Cat3 Cable
100BaseTX:	>Cat5 Cable
100BaseFX Multimode	50-62.5/125µm
100BaseFX Singlemode:	7-10/125µm

### 100 Mb Fiber Transceiver Characteristics

Fiber Length	2km*	15km**	40km**	80km**
TX Power Min	-19dBm	-15dBm	-5dBm	-5dBm
RX Sensitivity Max	-32dBm	-29dBm	-34dBm	-34dBm
Wavelength	1310nm	1310nm	1310nm	1550nm

\* Multimode Fiber Optic Cable  
\*\* Singlemode Fiber Optic Cable

### Connectors

10/100BaseTX+PoE:	Four (4) RJ-45 TX/PoE Copper Ports
100BaseFX:	One (1) ST or SC Duplex Port

### Recommended Wiring Clearance

Front:	4" (10.16 cm)
Top:	1" (2.54 cm)

### Ordering Information

105FX-XX-POE	Four10/100BaseTX Ports (4 PoE) One 100BaseFX Multimode Port
105FXE-XX-YY-POE	Four10/100BaseTX Ports (4 PoE) One 100BaseFX Singlemode Port
NTPS-48-5	DIN-Rail Power Supply 48V@ 5 Amp

## BENEFITS

### PoE Industrial Network Switch

- Compact Size / Small Footprint
- Ability to Power Devices via LAN
- Eliminates need for Costly Electrical Wiring
- Extended Environmental Specifications
- Hardened Metal DIN-Rail Enclosure
- High Performance
- High MTBF >2M Hours
- ESD Protection Diodes on RJ-45 Ports
- Surge Protection Diodes on Power Inputs

### Ease of Use

- Plug & Play Operation
- Auto Sensing 10/100BaseTX
- Auto Sensing Full/Half Duplex
- MDIX Auto Cable Sensing
- Unmanaged Operation
- Auto-Detection of PoE Capable Devices
- Redundant Power Status LED's

### Increased Performance

- Full Wire Speed Capable
- Full Duplex Capable
- Eliminates Network Collisions
- Increases Network Determinism
- Auto-Disconnect of PoE Port if Fault is Detected

### Regulatory Approvals

FCC Title 47 Part 15 Class A

ICES-003- Class A

CE: EN61000-6-2,4; EN61000-4-2,3,4,5,6  
EN55011

UL Listed (US and Canada) per ANSI/ISA-12.12.01-2000,  
Class I, Div 2, Groups A,B,C,D,T4A;

ABS Type Approval for Shipboard Applications

DNV Type Approval Certification

EN50155 for Railway Applications

GOST-R Certified; RoHS Compliant

Designed to comply with:

IEEE 1613 for Electric Utility Substations

and NEMA TS1/TS2 for Traffic Control Equipment

### Contact Information

Secure online  
ordering  
24/7/365 from

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